

AD-A262 626

20001006140

②



Women in Direct Combat: What is the Price for Equality?

A Monograph
by

Major Marc I. Alderman
Infantry



DTIC
SELECTE
APR 07 1993

E

D

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

First Term AY 92-93

Approved for Public Release; Distribution is Unlimited

93-07141



61P6

98 4 06 018

Reproduced From
Best Available Copy

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 12/12/92	3. REPORT TYPE AND DATES COVERED MONOGRAPH	
4. TITLE AND SUBTITLE WOMEN IN DIRECT COMBAT: WHAT IS THE PRICE FOR EQUALITY			5. FUNDING NUMBERS	
6. AUTHOR(S) MAJ MARC I. ALDERMAN, USA				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) SCHOOL OF ADVANCED MILITARY STUDIES ATTN: ATZL-SWV FORT LEAVENWORTH, KANSAS 66027-6900 COM(913) 684-3437 AUTOVON 552-3437			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT UNLIMITED APPROVED FOR PUBLIC RELEASE DISTRIBUTION IS UNLIMITED			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) SEE ATTACHED				
14. SUBJECT TERMS WOMEN IN COMBAT UNIT COHESION DOMAINS OF WAR NATURE OF WAR DIRECT COMBAT			15. NUMBER OF PAGES	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED	

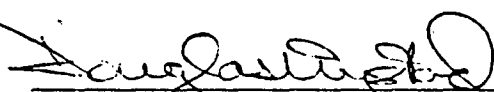
SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

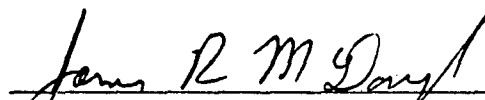
Major Marc L. Alderman

Title of the Monograph: Women in Direct Combat: What is the Price for Equality?

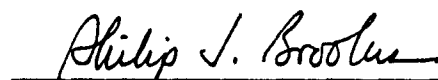
Approved by:


LTC Douglas L. Tystad, MA

Monograph Director


COL James R. McDonough, MS

Director, School of
Advanced Military
Studies


Philip J. Brookes, PhD.

Director, Graduate
Degree Program

Accepted this 19th day of December 1992

ABSTRACT

WOMEN IN DIRECT COMBAT: WHAT IS THE PRICE FOR EQUALITY? By Major Marc I. Alderman, USA. 55 pages.

This monograph examines whether allowing women in direct combat assignments in the U.S. Army will adversely affect unit cohesion and as a result, degrade combat effectiveness. To answer this question the monograph conducts a theoretical analysis of the nature of war to establish the relationship between the unit, combat, and cohesion. From this analysis, a model of cohesion is developed to assist in an investigation and assessment of historical precedents of women serving in direct combat and current issues. The monograph concludes with recommendations concerning present U.S. Army policy regarding the assignment of women to direct combat units.

The theoretical analysis reviews the physical, cybernetic, and moral domains of war which establishes a framework to define the elements of cohesion as they relate to the destructive process of combat. From this analysis a model is developed which pictorially represents these relationships. The monograph then uses the model to evaluate historical precedents and current issues.

Women fighting as members the Soviet Army during WWII and Israeli Army during the War for Independence form the historical basis for the evaluation. Current issues include: physiological and psychological studies to provide data to evaluate relative physical and mental capabilities; a comparative analysis of women serving as guerrillas, police, and firemen, as well as, a review of the Canadian Forces' experience with gender integration.

From this assessment, the monograph concludes that allowing women to serve in direct combat units would reduce cohesion and subsequently combat effectiveness. Therefore, the Army's policy excluding women from direct combat is justified and the monograph recommends retaining this policy.

DTIC STATEMENT A

Accession For	
NTIS	<input checked="" type="checkbox"/>
DTIC	<input type="checkbox"/>
U.S. Army	<input type="checkbox"/>
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS

TITLE PAGE.....	i
APPROVAL SHEET.....	ii
ABSTRACT.....	iii
TABLE OF CONTENTS.....	iv
INTRODUCTION.....	1
THE NATURE OF WAR.....	4
MODEL FOR UNDERSTANDING UNIT COHESION.....	8
HISTORICAL PRECEDENTS.....	16
CURRENT ISSUES.....	23
CONCLUSION.....	42
RECOMMENDATION.....	45
ENDNOTES.....	46
BIBLIOGRAPHY.....	52

Introduction

The United States military's All Volunteer Force (AVF) has been a resounding success for the Army. Today's Army is the best educated and most disciplined army in our nation's history. A large part of the success of the AVF must be attributed to the increased participation of women in the military. With the decreasing population of 18 to 21 year old males, the Army could never have met manning requirements of the AVF in terms of quality or quantity without recruiting large numbers of qualified women.

Women now make up over 11.4 percent of the Army's total force. The U.S. Army has a higher percentage of women serving on active duty than any other major western army to include Germany, Canada, France, and Great Britain. Additionally, about 90 percent of the military occupational specialties (MOS) and over 50 percent of the positions are open to women in the Army.¹ Even the assignment policies of the much vaunted Israeli Defense Force are more restrictive than the U.S. Army's policies regarding women.² The only positions remaining closed to women in the U.S. Army are those that would require women to fight as their primary task. Army Regulation

600-13 states:

The Army assignment policy for female soldiers allows women to serve in any officer or enlisted specialty or position except in those specialties, positions, or units (battalion size or smaller) which are assigned a routine mission to engage in direct combat, or which collocate routinely with units assigned a direct combat mission.³

The Army further defines direct combat as:

Engaging an enemy with individual or crew served weapons while being exposed to direct enemy fire, a high probability of direct physical contact with the enemy's personnel and a substantial risk of capture. Direct combat takes place while closing with the enemy by fire, maneuver, and shock effect in order to destroy or capture the enemy, or while repelling the enemy's assault by fire, close combat, or counterattack.⁴

The Army's policy comes from the Department of Defense's (DOD) policy which bars women from positions that will expose them to direct fire or capture.

Recently, Congress changed the legislation regarding women in combat. The change removed legislative restrictions preventing women from serving in direct combat assignments. But Congress stopped short of mandating a change to the DOD exclusion policy. As a result the President appointed a commission to review this policy. On 3 November, the Presidential Commission on the Assignment of Women in the Armed Forces recommended permitting women to serve on designated warships but continuing to exclude women from ground fighting units and flying combat missions in Air Force or Navy aircraft.⁵ But, this remains a controversial issue. The fact that the opportunity to achieve general officer rank and the highest levels of military leadership are significantly greater for those serving in direct combat assignments exacerbates the perception of unjust discrimination. Many feminist lobby groups have focused on this issue as the last bastion of male dominance and use examples of successful women serving as police and firemen as proof that women can handle the physical and

mental stress of direct combat. On the other hand, senior military leaders claim that women in direct combat units would jeopardize unit cohesion by destroying the moral fabric of small units (the band of brothers hypothesis) and result in a degradation in overall combat effectiveness. ° Changing the policy is also causing concern for many Congressmen because of the possible effects on draft and conscription legislation. The end result of a policy change may make women eligible for the draft.

Women in combat was always an emotional issue and the media fanned the flames of these emotions during their coverage of Just Cause and Desert Shield - Desert Storm by highlighting the role of women in these conflicts. Even the Presidential Commission felt the pressure of public sentiment as revealed by the Commission Chairman retired General Robert T. Herres when he confessed, "... a great number of people will not believe we credibly considered these issues without some concession to changing times."⁷ Because of the heightened levels of emotion surrounding this issue, an objective examination of the potential effects of women serving in direct combat assignments on unit cohesion is both timely and prudent.

This monograph will attempt to answer the question of whether allowing women in direct combat assignments in the U.S. Army will adversely affect unit cohesion and as a result, degrade combat effectiveness. To answer this question the monograph will first examine the nature of war and how cohesion relates to combat. From this theoretical analysis, the monograph

will build a model which explains the relationship between cohesion, the direct combat unit, and the forces of destruction these units experience during war. The model will then serve to assess both historical examples and current issues involving women in direct combat and to determine the relative effects on unit cohesion. To conclude, the monograph will evaluate the model and make an assessment of the consequences of assigning women to direct combat units regarding combat effectiveness.

The Nature of War

An understanding of the general nature of war is essential to develop a working model of cohesion and to appreciate relative importance of cohesion to direct combat units. To fully grasp the nature of war, it is necessary to break war down into fundamental elements or dimensions of conflict. T. E. Lawrence first identified these elements as algebraical, psychological, and biological. The algebraical element or the element of things defined the physical components of war (materiel, terrain, weather, and other known variables). The biological element or element of lives identified the human aspects and the psychological element or element of ideas described the conceptual framework that links the algebraical and the biological.⁸ Dr James Schneider, Professor of Military Science at the U.S. Army's School of Advanced Military Studies, contemporizes these elements and redefines them as the physical, cybernetic, and moral domains. These domains describe the nature of war.⁹

The physical domain defines the material forces that are present during conflict. Generally, technological, geographical, and logistical factors establish the architecture for the physical domain of war. Weapons systems and equipment capabilities, limitations, and quantity describe the technological context of a conflict. Terrain and weather determines the environmental or geographical conditions. The means and methods of sustaining the army outline the logistical situation. Together these factors create the physical domain or the fixed conditions of war.¹⁰

The cybernetic domain incorporates the functions and systems of organization, command, control, and communications within military organizations. Organizational design of a unit provides an inherent functionality and capability to accomplish specific tasks. The process and conduct of command provides purpose to each organization by making decisions and exercising leadership. Control systems provide feedback to command elements to prevent diversions from command goals or to permit required changes. Communications systems furnish conduits for feedback to command elements and for collateral information exchange among different units. Although technological systems and innovations support the cybernetic domain, the psychological and social aspects of organizations, command, and communication are also present. As a result, the cybernetic domain links the physical conditions with the human dimension of war.¹¹

The moral domain describes the human dimension of war. Many of

the classical military theorists declared the preeminence of moral forces.

From his Battle Studies, Colonel Ardant du Picq determined that " he will win who has the resolution to advance . . . who in a word has moral ascendancy." ¹² Clausewitz also clearly claimed: " moral elements are among the most important in war." ¹³ The moral domain of war is an integration of the physiological, psychological and social forces that affect both individuals and units. The physiological elements include individual anatomical capabilities such as strength and endurance. Leadership, motivation, courage, fear, values and attitudes are factors that define the psychological portion of the human dimension. Social forces include discipline, group bonding, and morale. The effects of these elements still combine to make the human dimension the dominant force on the battlefield. ¹⁴

The arena for these three domains is combat which is also the basic purpose of war. The primary focus of combat is to destroy or defeat the enemy army. Clausewitz stated: " Fighting is the central military act; all other activities merely support it ... The object of fighting is the destruction or defeat of the enemy." ¹⁵ Du Picq defined combat by the material and moral effects of the army. ¹⁶ The material effect was the army's destructive power and the moral effect was the fear the army creates in the hearts of the enemy. ¹⁷ As a result, the process of destruction or defeat during combat is both physical and moral. The physical process of destruction eliminates the ability to fight while the moral process of destruction breaks the will to fight.

In combat, destruction occurs generally along a continuum (see figure 1).¹⁵ It begins in the physical domain with the destruction of technological systems and materiel which results in human casualties. Physical destruction of elements in the cybernetic domain (C3I) leads to disorganization which feeds the forces of moral destruction. The sustained combination of physical and moral destructive forces causes further moral breakdown and finally disintegration.

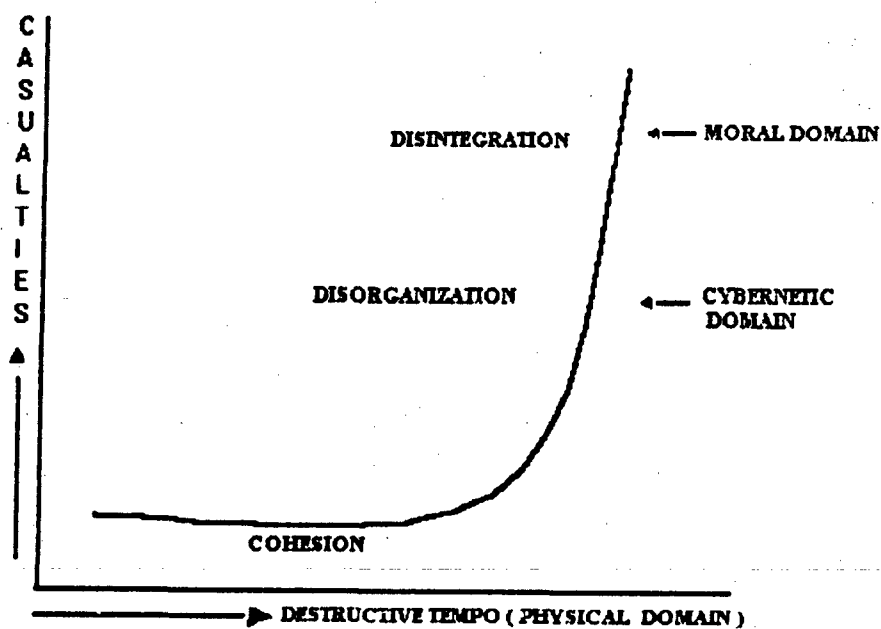


FIG 1 DESTRUCTION, DISORGANIZATION, DISINTEGRATION
SOURCE: J.J. SCHNEIDER, THEORETICAL PAPER NO.3

The combination of the physical and moral destruction produces fear and uncertainty. Fear and uncertainty attack the will of the individual soldier and destroy the psychological and physical bonds between the individual soldier and the other members of the squad, team or crew. Conceptually, the

process of destruction drives an army from destruction of materiel (weapon systems), to disorganization of small units, to the disintegration of fighting forces. It is cohesion that provides a means for an army to resist the process of destruction.¹⁹

Model for Understanding Unit Cohesion

Cohesion is a critical element of an army's combat power. It is the intangible force that holds an army together in combat. Stephen Westbrook, Professor of Military History at the United States Military Academy states that cohesion "... serves as both a source of power and security, sustaining the soldier physically and psychologically ... [helping] to ward off feelings of impotence and vulnerability."²⁰ In Men Against Fire, S.L.A. Marshall describes cohesion as the force "... which enables a group of individuals to make the most of their united strength and stand steady in the face of sudden emergency."²¹ Therefore, cohesion is what makes an M1A1 tank and crew a weapon system, an infantry squad an integrated team or a battalion a coherent organization capable of overcoming the stresses of combat and capable of winning. These elements of cohesion are primarily a function of physical, cybernetic, and moral forces of war. Within each domain of war, there is a corresponding element of cohesion.

Cohesion within the physical domain results from system bonding. System bonding comes from fusion of a crew with a weapon or other piece of equipment to produce a system. The weapon system is a technological

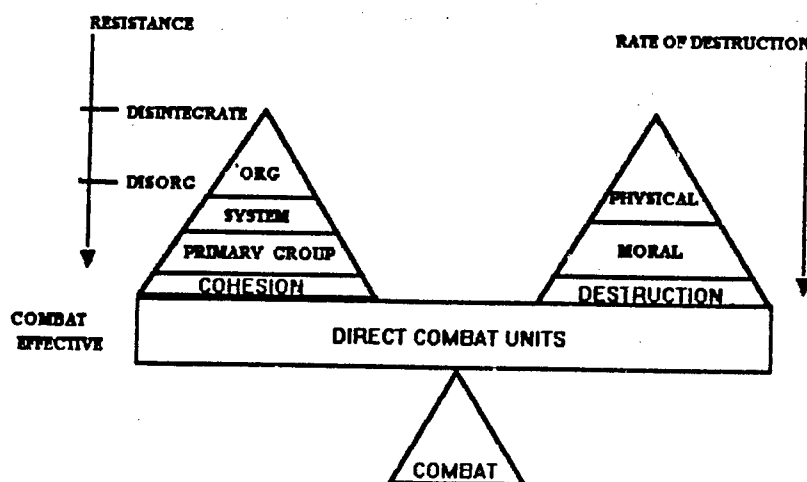
component and thus, part of the physical domain. For example, the integration of a crew and an M1A1 tank forms an M1A1 weapon system. Stephen Westbrook highlights this unique relationship when he stated: "... weapon systems such as submarines or machinegun crews, tend to be among the most cohesive military groups."²² A critical aspect of system bonding is physiological. The crew must have the biophysical capability to effectively operate and sustain the system to develop this element of cohesion. System bonding produces weapon systems with optimal capabilities. Consequently, effective system bonding directly resists physical destruction.

The cybernetic domain establishes an organizational bond within larger military organizations through the processes of command, control, and communication. These functions and systems provide aim, direction and purpose which creates a collective cohesion for the unit. Collective cohesion resists the disorganizing effects of combat on large military organizations.

The moral domain produces the most powerful bonds through physiological, psychological, and social forces. These bonds are the strongest within the primary groups. A primary group is the smallest formal and informal component within an organization. In military organizations, primary groups generally form at the crew or team level. These bonds form at the primary group level through interdependence, shared goals and values, esprit and a common basis of experience. Combat demands that these bonds be both physiological and psychological. Each member must

equally contribute and depend upon physical and moral courage of the group to ensure his own survival. For this reason, primary group cohesion is the force that opposes disintegration during combat. Sun Tzu recognized the importance of this force when he wrote, " In the tumult and uproar the battle seems chaotic, but there is not disorder; the troops seem to be milling about in circles but cannot be defeated."²³ Primary group cohesion is the cornerstone of the morale and hence the will of an army.

Therefore, this analysis of the nature of war identifies three components of cohesion: collective or organizational bonding; system bonding; and primary group bonding. Further more, the analysis relates the components of cohesion to the physical and moral components of destruction. The combined effects of cohesion and destruction focus on the fighting units in combat. These relationships can be displayed in the form of a cohesion model (figure 2).



DIRECT COMBAT COHESION MODEL, FIG 2

This model depicts cohesion as the primary force within a combat unit that resists the process of destruction. Direct combat units are the focal point of the process of destruction. They are directly engaging the enemy and therefore feel the full brunt of the physical and destructive forces of the enemy army. Combat is closing with the enemy by fire, close combat, and counterattack and sustaining these actions until the enemy is destroyed or captured. It is the need to sustain and endure this intense level of destruction for long periods of time that separates direct combat from other types of social conflicts. No other social endeavor compares to the crucible of combat. The volume, intensity, and duration of destruction make combat unique from any other human activity.

Comparing this analysis to the model, combat is the environment or fulcrum on which rests the existence of the combat units. The direct combat units act as a lever which must balance the forces of physical and moral destruction with cohesion. If units have sufficient cohesion then they will withstand the physical and moral attrition resulting from the process of destruction and remain combat effective (continue to fight). When the rate of destruction over comes the cohesive force of resistance then the units are driven to disorganization and disintegration.

Two examples from history illustrating the importance of cohesion and providing an opportunity to test the model are the German SS Totenkopfdivision (SSTK) during the Battle of Lushno in 1941 and the U.S.

106th Infantry Division during the Battle of the Bulge in 1944. The experiences of these two units are polar. Faced with almost certain destruction, the SSTK emerged bloodied but never broke. The 106th Infantry Division disintegrated nearly without a fight. The biggest difference between these divisions was the level of cohesion within their respective units.

On 24 September 1941, Lushno became the focal point of a major Soviet Counter Offensive. SSTK withstood the full force of the Soviet attack and fought the better parts of three Soviet divisions supported by over 100 tanks. Even though subordinate battalions suffered tremendous casualties, these units remained combat effective and were able to continually conduct counterattacks to regain lost ground. In one instance an infantry battalion that had lost all its officers and had a troop strength of only 150 men retook the village of Lushno. The success of this division was directly attributed to the level of cohesion within its subordinate units. The intense unit indoctrination programs combined with rigorous training and physical conditioning programs created very strong primary group, system, and organizational bonds. This level of cohesion produced infantry squads that would attack tanks with grenades and satchel charges, anti-tank gun crews that would continue to fire even when over run, and battalions that could successfully counterattack even after taking 80 percent casualties. The SSTK remained combat effective because the unit cohesion in the division was able to resist the process of destruction. ²⁴

The 106th Infantry Division (Golden Lions) serves as an example of what occurs when a unit faces the physical and moral forces of destruction in combat without sufficient unit cohesion. The 106th Infantry Division, a non-regular unit was: "... organized and trained on the same conveyor-belt principle as American industry. ..." ²⁵ It had neither the esprit or traditions of a regular unit nor the personal affiliations of a National Guard unit. The divisional training process did not provide the intense indoctrination or training programs that would have fostered unit pride and individual interdependency. The cohesion within the division was further degraded when 6000 trained riflemen were taken from the Golden Lions and used to reinforce units already committed. To replace the 6000 trained riflemen, the 106th received new draftees and men culled from the supply and quartermaster services. ²⁶ The cumulative effects of these circumstances created weak primary, system, and organizational bonds and left the 106th Infantry Division without enough cohesion to resist the process of destruction during the Battle of the Bulge.

It was the early morning of 16 December 1944, when the combined weight of three German divisions struck the 106th Infantry Division in the Ardennes beginning the Battle of the Bulge. But, unlike the SSTK, the Golden Lions of 106th Infantry Division shattered like glass. Colonel Dupuy, the historian for the 106th, described the disintegration of his division in his account of the battle:

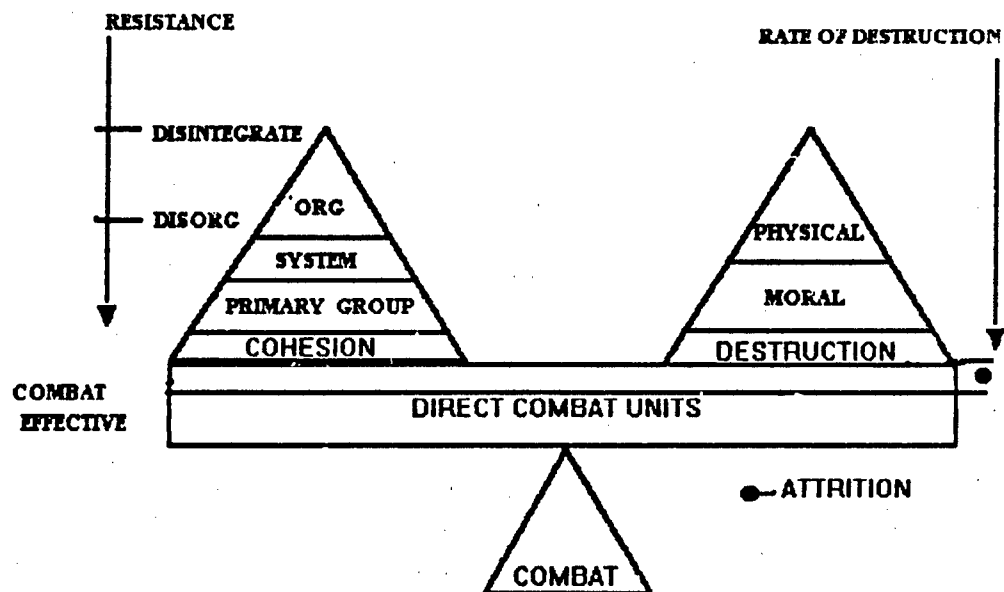
Let's get down to basic facts. Panic, sheer unreasoning panic, flamed that road all day and into the night [16 December]. Everyone, it seemed who had any excuse and many who had none, were going west that day [west, away from the fight]-²⁷

An officer in the 7th Armored Division, which moved forward to attempt to stem the German tide in the Ardennes remarked about the 106th:

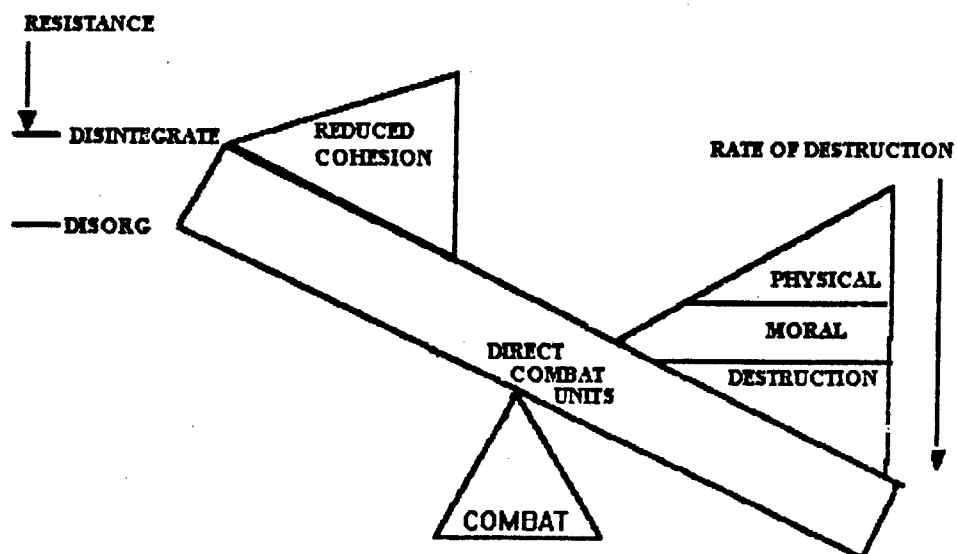
... it wasn't orderly; it wasn't military; it wasn't a pretty sight. We were seeing American soldiers running away.²⁸

There were many reasons for this division's defeat: poor tactical disposition, poor intelligence, and bad weather. But, the primary reason it disintegrated was insufficient unit cohesion. The lack of primary group, system, and organizational bonding were evidenced by large numbers of self induced foot injuries, drivers fleeing with tanks and artillery pieces without the other members of the crew, and units fleeing that hadn't even seen the enemy. The unit cohesion in the 106th Infantry was insufficient to withstand the process of destruction. As a result, the unit disintegrated and suffered nearly 50 percent casualties. The disintegration of the 106th Infantry Division was the worst American defeat in the European theater (total casualties for the division were estimated at over 7000 missing or dead).²⁹

These two historical examples illustrate the importance of unit cohesion and the relevance of the Combat Cohesion Model. Figure 3 provides a relative comparison of the effects of the process of destruction on the SSTK and the 106th Infantry Division. This comparison also sets the stage for a review of the historical precedents of women serving in direct combat.



COMBAT COHESION MODEL SSKT AT LUSHNO



COMBAT COHESION MODEL 106TH IN DIV AT THE BULGE

FIG3 COHESION SSKT VS 106TH IN DIV

Historical Precedents of Women in Direct Combat

Otto von Bismarck once suggested that it is better to learn from the mistakes of others than to learn from your own. On this premise, a historical analysis of other armies that assigned women to direct combat units may provide a better understanding of the potential effects on unit cohesion.

The historical analysis for this monograph will focus on the experiences of two armies: the Soviet Army during World War II, and the Israeli forces during the 1948-49 Arab- Israeli War. The Soviet Army of World War II is the only historical example of women fighting as part of an organized standing army. Although Israeli women were not a part of a standing army during Israel's War of Independence, they still directly participated in the defense of Jewish settlements.³⁰ The Combat Cohesion Model will provide the means of evaluating the effects of women serving in direct combat units on cohesion with respect to each historical example. The evaluation of these will provide a historical framework for further analysis.

The German invasion of Russia in June of 1941 began the largest land war in history. Huge armies laid waste to most of the land between Moscow and Berlin. Large armored formations scorched the earth, destroyed cities, and killed 20 million peoples of the Soviet Union.³¹ For four years, the German and Soviet Armies were locked a vicious struggle to survive. It is the closest any modern nations have come to fighting the absolute war described by Clausewitz.³² Absolute war, a war where the nations, driven by " ...

primordial violence and hatred," committed all national resources to the conflict. ³³ The war became a death ride for both nations fueled by the social hatred which existed between the German and Soviet peoples. ³²

Women were already serving in small numbers within the Red Army when the Germans attacked, but the tremendous losses inflicted upon the Soviet Army during the summer of 1941 forced the Supreme Soviet to initiate the conscription of women. From 1941 to 1945, over 800,000 women served in the Soviet Military. ³⁴ They served in all branches of the army to include direct combat assignments. Russian women served in the infantry as riflemen, automatic riflemen, machine gunners, scouts and snipers. They also served in tank crews and artillery units. ³⁵ There was even an entire field artillery regiment composed entirely of women.

The war produced many heroines like Captain Vera Salbieva and Colonel Zulehia Seidmamedeva. Captain Vera Salbieva led a battalion across the Dnieper in August 1941. Zulehia Seidmamedeva was a fighter pilot for four years and became the deputy commander of her fighter regiment. ³⁶ Soviet women fought hard and even earned the grudging respect of their enemies as reflected by this remark from an unknown German Officer, referring to Russian women at the siege of Stalingrad:

There was nothing more frightening than to have to face Russian women lying on stone doorsteps firing until they are dead. These women did not know what giving ground meant. They killed and died, in their place. ³⁷

But, the Russian women soldiers who achieved the greatest fame were the

snipers such as Lyudmila Pavlichenko who earned the order of Lenin for killing 309 Germans.³⁸ Overall, the performance of Russian women in direct combat units during World War II appears to indicate that present concerns regarding unit cohesion may be unwarranted.

However, other evidence indicates that Russian women did not play a significant a role in the fighting on the Eastern Front. Noted Soviet historian Christopher Donnelly states:

... despite the publicity given to these few examples [pilots and snipers], women were not generally seen in combat in the Red Army except in as much as they got onto the battlefield as medics (in large numbers), traffic controllers, drivers, or in HQ Staffs.³⁹

Donnelly's assessment is corroborated by available statistics which show that women comprised only eight percent of the Soviet Military during the war (that is three percent less than in the U.S. Army today) and the majority of these women were employed as medics or in medical services.⁴⁰ There is also evidence which indicates that the Russian women who served in direct combat assignments did not perform as well as the men. In her book Women in War, Shelly Saywell interviewed thirty Russian women that served in Soviet direct combat units during World War II. Those women interviewed stated that women often had to throw away equipment, leave equipment behind, or get some of the men in their units to help carry it.⁴¹

An analysis of the consequences of this behavior would infer that these mixed direct combat units were less cohesive. The loss of equipment within a unit would lead to a loss of system bonding. The inability of women to carry

their own equipment would reduce mutual support and degrade the bonds within the primary group. Although there isn't any empirical evidence to support it, the Combat Cohesion Model would predict that the reduced system and primary group bonds of these mixed direct combat units led to increased rates of destruction. This assessment is supported by the women's own evaluation. Saywell states that:

Although Russian history is full of martial women, such as those who fought in the Napoleonic Wars and in the Revolution, each woman I interviewed said that women do not belong in combat - that it is physically too difficult and that only in case of national emergency should women take up arms.⁴²

The Red Army's experiences regarding women serving in direct combat assignments showed women performed well when given specific tasks that required individual skill but not excessive physical strength or endurance. Their acceptable performance as snipers and pilots and their admittedly inadequate physical performance as infantry supports this conclusion. The analysis of the effects of inadequate physical performance of Soviet women indicates that mixed direct combat units were probably less cohesive. If analyzed in relation to the Combat Cohesion Model, the model would predict higher rates of attrition for the mixed direct combat units. The unwillingness of the Soviet Army to employ women outside of Russia during World War II and the present status of women in the Russian Army (they only serve in medical or administrative positions) lends further credibility to this assessment.

Another army that employed women in direct combat units during a

war of survival was the Haganah. The Haganah was the the unsanctioned Jewish Army established in Palestine before the creation of the state of Israel. Women were assimilated into the organization as early as 1930 and initially trained with light weapons for personal defense.⁴³ Their primary mission was to smuggle weapons and other contraband through British check points. Although there were other Jewish guerrilla and terrorist organizations, the Haganah was the largest and later became the basis for the establishment of the Israeli Defense Force.⁴⁴

From 1936 until the outbreak of World War II, the Haganah fought a three year guerilla war against the Arabs in Palestine. Throughout that conflict, the participation of Jewish women in combat continually increased.⁴⁵ During World War II, the Haganah formed an elite fighting force known as the Palmach. Women became part of the organization from its inception. The training for the Palmach was very strenuous. To reduce dysfunctional competition between men and women trainees, women and men trained in segregated groups.⁴⁶ Following basic training however, women served in mixed units. This policy continued until Israel's War of Liberation.

The guerilla phase of Israel's War of Liberation began on 29 November 1947. At this time, one out of every five soldiers in the Haganah was a woman and proportionally large numbers of women served in direct combat units. During this phase of the conflict, which was primarily defensive, women generally shared the burden of combat equally with men.⁴⁷

The conventional phase of Israel's War of Liberation began on 14 May 1948 when Israel declared its independence and was subsequently invaded by the armies of Egypt, Syria, Lebanon, and Transjordan. With the declaration of independence the new Israeli government worked to combine the different Jewish military organizations into the Israeli Defense Force. Once established, however, the role of women within the new IDF changed and the number of women in direct combat units declined.⁴⁸ Urged on by Prime Minister David Ben-Gurion and recommendations from a Haganah committee for special staff assignments, Israel's legislature (the Knesset) established a separate branch of service for women and named it the Auxiliary Corps. Ben-Gurion justified these changes in the following statement to the Knesset:

There is a fundamental difference between the Haganah and the IDF. Until November 1947, the Haganah was for local defense. There was a need to defend the place of settlement and the call to defense included everybody who was capable. But an army is a totally different thing. In war, an army's main task is to destroy the enemy army-not just defend. When we protected the home with rifle in hand, there was no difference between boy and girl. Both could take shelter, and everything he knew-she knew. But in an army and in war, there is a reality of inequality in nature, and impossible to send girls to fighting units. Yet an army also needs non-combat units. And women are needed for appropriate professions to strengthen the nation's fighting force by releasing men from those tasks for combat.⁴⁹

Ben-Gurion's philosophy for the use of women in the IDF still prevails. Although Israeli women are subject to a draft, Israeli women do not presently serve in any assignment that will expose them to combat. Today, when forward IDF units go on alert, women support troops are sent to the

rear. Israeli women have not served in direct combat units during a conflict since 1948. The much touted modern image of the Israeli woman soldier, with her Uzi submachinegun, fighting along side men in battle is a myth.⁵⁰

Although the contributions to the defense of their nation are undeniable, there is also evidence that Israeli women experienced significant difficulties in integrating into predominately male units. Records indicate that mixed direct combat units had consistently higher casualty rates.⁵¹ Also, as the fighting progressed in 1947, Haganah commanders stopped allowing women to serve in assault forces because "... physically girls could not run as well - and if they couldn't run fast enough, they could endanger the whole unit, so they were put in other units."⁵² Generally, because of their comparative lack of physical strength, commanders employed women in defensive operations whenever possible.⁵³

Analyzing this evidence in terms of the Combat Cohesion Model indicates that the Israeli women soldiers' inability to meet the physical demands of direct combat would (as with the Russian women) reduce primary group bonding by preventing interdependence and mutual support. The results were that the Israeli mixed direct combat units experienced increased moral destruction (commanders believed the women endangered their units) and physical destruction reflected by the higher casualty rates. The Combat Cohesion Model depicts that the mixed units would tend to disintegrate quicker because reduced cohesion accelerates destruction. The

reassignment of women to strictly defensive units supports this assessment.

As in the Soviet Army, the Israeli experiences of assigning women to direct combat assignments shows that women performed well when assigned specific individual tasks or when assigned defensive missions. However, lack of physical strength again appears to have reduced unit cohesion which resulted in higher casualties. The increased casualty rates reflect a faster rate of destruction. A faster rate of destruction would result in mixed direct combat units reaching the point of disintegration quicker. Consequently, units that are predisposed to higher rates of destruction are less combat effective.

Current Issues

Current arguments regarding women serving in direct combat focus on four general issues: physiological differences between men and women; psychological differences between men and women; the full integration of women into the armies of other nations; and the success women are experiencing in other physically and mentally stressful occupations. The monograph will examine these issues to determine relevant implications regarding effects on cohesion.

In a recent interview, Secretary of the Army Michael P. W. Stone stated: "I do not believe that the issue of women in [direct] combat is a question of physical capability."⁵⁴ Secretary Stone seems to infer that the physiological differences between men and women are relatively insignificant

regarding ability to perform in direct combat assignments. But, most physiological studies and historical evidence does not support this perspective. An objective assessment of the ability of women to meet the physical demands of serving in direct combat assignments is essential. Data from several physiological studies will provide the basis for this assessment. These studies are: Project 60 and Project Summer Time, a comparison of men and women on selected physical performance measures at the United States Military Academy (1976); the Training and Doctrine Command (TRADOC) Women in Combat Study (1986); and a study of Physical Performance of Army Men and Women, by Dr William J. Gregor (1992, submitted to Presidential Commission). These three studies will provide an overall evaluation of the biophysical differences between men and women with respect to serving in direct combat and will assist in determining ensuing effects on cohesion.

The United States Military Academy had to examine this issue of gender physical differences in 1975, when the Academy was preparing to admit the first class with female cadets. USMA conducted these studies in response to Public Law 94-106 which directed:

... the Secretaries of the military departments concerned shall take action as may be necessary and appropriate to insure that female individuals shall be eligible for appointment to such academy beginning in calendar year 1976, and the academic and other relevant standards required for appointment, training and graduation, and commissioning of female individuals, shall be the same as those required for male individuals, except for those minimum essential adjustments in such performance standards required because of physiological differences between male and

female individuals.⁵⁵

To determine the general physiological differences the Academy reviewed available literature and previous biophysical studies. A summarization of the results of that review are: Men have twice the lean muscle mass (LMM) of women. This coupled with greater size produces greater strength and improves performance in tasks that require explosive power (sprinting or throwing). Even when size is not a factor, women are only 80 percent as strong as males. In regards to cardiovascular differences, the male heart and lungs are larger which allows a greater cardiovascular capacity. Men also have more hemoglobin in their blood increasing the ability of the blood to carry oxygen. Consequently, men have a greater potential for strength and endurance and women will have to work harder to accomplish the same work as a man.⁵⁶

To determine the minimal essential adjustments because of physiological differences USMA developed Project 60 (completed in May 1976) and Project Summertime (completed in October 1976). Both studies focused on evaluating relative strength and endurance, specifically: shoulder girdle, and leg, strength, power, power endurance, hand grip strength, cardiorespiratory efficiency, and body composition.⁵⁷

Project 60 used fifty-seven, 16-18 year old female high school students and divided them into three different training groups. The three groups each conducted a different physical training program. One group conducted a reveille PT program four days a week (the same program conducted during

New Cadet Training during the summer). The second conducted a strength development program three days a week and the third was a control group which conducted no formal physical training program. ⁵⁸ It should be noted that the female subjects of Project 60 were at a significantly higher level of aerobic fitness than female trainees at Fort Jackson after six weeks of basic training (two thirds completed) and were at only at slightly lower level of aerobic fitness than the population of college female athletes. ⁵⁹

Prior to the initiation of the PT programs all the test subjects were given the Physical Aptitude Exam (PAE) administered to all Academy applicants. The project 60 subjects achieved a higher average PAE score than the 473 female Academy applicants but their scores were still significantly lower than the male applicants in 1979. The PAE has four events: the flexed arm hang and modified basketball throw (to evaluate upper body strength); the standing long jump (to evaluate lower body strength); and the 300 yard shuttle run (to evaluate aerobic fitness). ⁶⁰

At the conclusion of the seven week conditioning programs, only the top female performer attained the average male score for the shuttle run, but the lowest male score was higher than the mean score for the Project 60 participants. In the other events, the mean scores of the top eight Project 60 subjects were only 60 percent of the average scores of male applicants of 1979. Overall, the average total PAE score for the top eight Project 60 subjects was 306.7 points, approximately half of the average overall score for male

applicants of 1979.⁶¹ The reveille PT group also identified some significant physical differences between men and women in strength and endurance. The study found:

Running in boots, with rifles, produced the worst performances of the reveille exercise training. No one (Project 60 participant) was able to handle the requirements. Even substitution of the M-16 for the M-14 and concurrent elimination of the wearing of boots did not result in anyone successfully negotiating the scheduled run. Quite simply, the aerobic demands of training, coupled with the strength level required to carry a rifle while running, results in what appears to be an impossible task for young women.⁶²

The data from Project 60 supported the initial assessment of the differences between men and women.

To obtain a better assessment of the relative differences between cadet men and women the Academy initiated Project Summertime on 7 July 1976. Project Summertime used a stratified sample of 30 male and 30 female cadet basic trainees from the Class of 1980. All participants underwent two tests, a pre-test during the second week of cadet basic training and a post test administered the sixth week of training. This test evaluated strength, power, power endurance, and cardiorespiratory efficiency through isokenetic and aerobic exercises.⁶³ The results of the post test showed that the men had 35 percent greater LMM and nearly half the percentage of body fat of the women. In the upper body men were 80 percent stronger(measured by maximum effort on an isokenetic Cybex bench press), 270 percent more powerful (measured by highest torque value on bench press) and had 473 percent greater endurance (measured by work). In the lower body men were

22 percent stronger (measured by leg press); 41 per cent more powerful, and and had 48.5 percent greater endurance. There was not a significant difference in cardiovascular efficiency. ⁶⁴ The conclusions were self-evident, men were stronger and had more endurance. ⁶⁵ The study recommendation was:

It should be fully realized that the physical performance capabilities of women are not the same as men. Because the performance capabilities of men and women are not the same, adjustments in grading and performance standards should be established. ⁶⁶

Two major changes resulted from these studies: the Academy stopped running with rifles or boots and established separate (dual) physical standards for women cadets.

In 1986, the Women in the Army Task Force Study Group (WITF) formed and was directed by TRADOC to conduct the Women in Combat Study. ⁶⁷ This study included an analysis of data provided by the United States Army Research Institute of Environmental Medicine (USARIEM). USARIEM was attempting to develop gender free physical occupational standards for the Army based on the findings of the Women in the Army Policy Review Group (WITAPRG). The WITAPRG adopted a modified version of the Department of Labor (DOL) classification system to group Army Military Occupational Specialties(MOS) according to strength requirements. ⁶⁸ The strength requirements were directly related to the amount of weight lifted in each specialty. ⁶⁹ (see figure 4)

Army Modified DOL Physical Demand Classification System

ARMY PHYSICAL DEMAND CATEGORIES

	LIGHT	MEDIUM	MODERATELY HEAVY	VERY HEAVY
OCCASIONALLY LIFTS >100LBS	MAX 20LBS	21-50LBS		51-80LBS
FREQUENTLY LIFTS >50LBS	MAX 10LBS	11-25LBS		25-40LBS

Fig 4

Dat

a

fro

m a

198

4

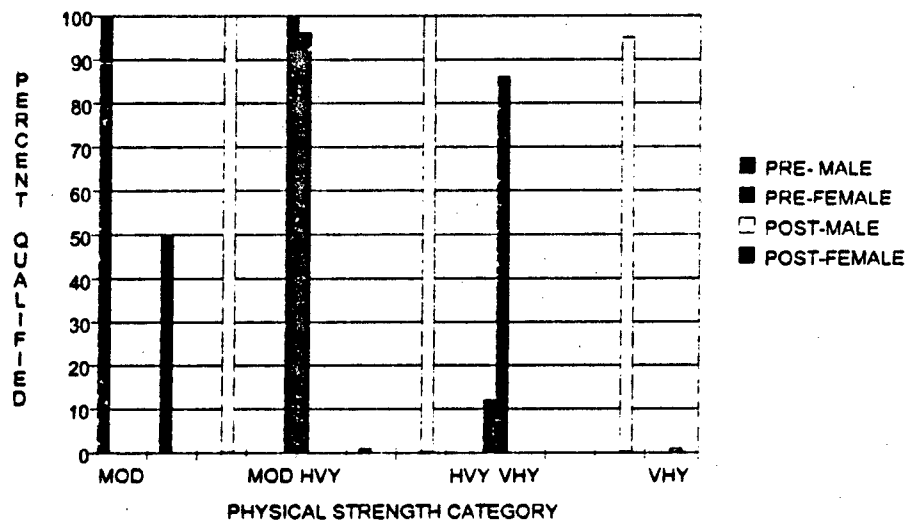
US

AR

IE

M

PHYSICAL STRENGTH QUALIFICATION FOR CHOSEN MOS (PRE AND POST BCT) FIG 5



study compared the physical strength of an evenly divided group of men and women before and after basic combat training. The soldiers were tested for maximum effort by lifting weights on an Incremental Lifting Device. When results were related to strength categories by each soldiers' MOS, it showed that only one percent of the women assigned to MOS in the very heavy work categories were physically qualified to do their job (see figure 5).²¹ In 1986,

there were approximately 19,311 women serving in jobs categorized as very heavy. Based on the tested sample, only about 193 were physically qualified to serve in those positions.⁷¹

On 12 September 1992, Dr. William J. Gregor testified before the Presidential Commission on the Assignment of Women in the Armed Forces. He appeared to present findings from his study of the Army Physical Fitness Tests results during Reserve Officer Training Corps (ROTC) summer camp. The study included the APFT scores of 4163 cadets, 3540 males and 623 females.⁷⁶ Based on a male standard (because this is the present standard for direct combat units):

Only 202 females achieved the male minimum passing score for fitness (32%). Only 21 of those women achieved the male mean score of 260; 2059 males met or exceeded that score. . . . If we analyze the results for the Push-up and 2-Mile run [sic] events, we learn only 7% of the women can do more than 60 push-ups; 78% of the men can best this standard. Similarly, only 6% of the women can run two miles in under 14 minutes, while 78% of the men best that time. At Fort Lewis, 772 men ran the two miles in under 13 minutes (243 under 12 minutes) compared with 4 women, none under 12 minutes; When it comes to attaining current male fitness standards, women are at a decided disadvantage.⁷³

To place these results in perspective, if the male fitness standard were adopted as the "objective standard": 70 percent of the female ROTC cadets would be failures and separated after their junior year; none would qualify for the Army Physical Fitness Badge (a score of 290 or better); and 90 percent would be ranked in the bottom half of their class in physical fitness.

Dr. Gregor concluded that although there were a few women that could

physically compete with half of the men (21 achieved the male mean), these women had reached the limits of their physical potential.⁷⁴ Because men inherently have the potential to develop more lean muscle mass, even the below average males had the ability to improve.⁷⁵ Due to smaller densities of lean muscle mass, women are slower and have lower strength potential and no training program can eliminate this difference in capability.⁷⁶

Each of these studies indicate that there are significant physical differences between men and women. The higher density of lean muscle mass, greater physical stature, and a larger heart and lungs combine to give men greater strength and endurance. Although in each study a very small percentage of women were able to meet average male strength performances or aerobic performances, when strength and aerobic demands were combined (as in running with a rifle and combat boots or in performing work on the bench press) women were incapable of meeting male physical standards.

The ramifications of these differences on training for direct combat units are either to accept a double physical standard (like USMA), maintain a male standard (condemning women to mediocre physical fitness evaluations), or reduce the standards. An assessment of the effects during actual direct combat can be made by an examination of specific direct combat tasks. Many of those advocating the elimination of the Army's exclusion policy make the assertion that technology is reducing the physical demands of combat. In some respects, this is true. A gunner in an M1A1 tank can rotate the 20 ton

turret, and lower and depress the 1 ton gun with the touch of a finger. But physical strength and endurance remain critical for soldiers participating in direct combat. A loader on an M1A1 is expected to lift 48-50 pound 120mm projectiles from a rack in the rear of the turret and drive them into the main gun breach over one meter away. He is expected to do this at a sustained rate of four times a minute. The driver is expected to change roadwheels that weigh 87 pounds and require the ability to produce 350 foot-pounds of torque to replace. An infantryman is still expected to close with and destroy the enemy by close combat carrying his weapon and almost 100 pounds of ammunition and equipment. He still accomplishes this through a series of rushes requiring continuous exertion of maximum speed and power. It is in performing these direct combat tasks, those combining both strength and aerobic endurance, that these studies show women will not succeed.

Analyzing these results in relation to cohesion, it is evident that female physiological differences will adversely impact unit cohesion. They will have the most adverse impact on primary group bonding in direct combat units. The lower physical strength and endurance of women would degrade the intensity of physical training and force the redistribution of heavy labor within the group. This will in turn reduce interdependency, commonality of experience, and morale.

The lower relative strength and endurance will reduce the level of system bonding. The comparable inability of women to operate and maintain

heavy weapon systems as well as men will degrade the over all capabilities of the system. As a result squads , crews and teams will not effectively bond with their associated system causing inferior performance which consequently will cause demoralization.

The historical evidence also supports these conclusions. The admission of physical inadequacy from the women Russian veterans, the higher casualty rates of mixed Haganah units, and Haganah commanders' efforts to restrict women to defensive assignments all indicate that the relative lower physical ability of women adversely affects cohesion in direct combat units. Analyzing these adverse effects on cohesion in terms of the model, infers a reduction in combat effectiveness. A lower level of cohesion will allow a more rapid rate of destruction which will quickly drive the unit toward disintegration (as in the case of the 106th IN DIV).

Organizational and primary group bonding both have psychological components. As a result, a review of psychological studies of differences between men and women is also necessary. The studies will examine aspects of command, control and communication, and the development of interdependency, shared values, and esprit. Three psychological studies provide the basis for conclusions: " Sex Differences in Leadership: Leadership Styles and Subordinate Satisfaction "(a study by psychologists Dimistris Bourantas and Nancy Papalexandris); " The Impact of Male and Female Leaders on the Group Performance, Morale, and Perceptions of West Point

Cadets " (conducted by the Army Research Institute for the Behavioral and Social Science); and " Integration of Women into a Male Initiation Rite: A Case Study of the USAF Academy " (by David Gillman and William Marshak).⁷⁷

In 1990, Bourantas and Papalexandris collected data from 294 male and female supervisors and subordinates in both public and private organizations to investigate the leadership styles of male and female managers and related subordinate satisfaction.⁷⁸ Their findings revealed that there were no significant differences in leadership styles or corresponding subordinate satisfaction between successful male or female managers. Moreover, this study found that women often possessed superior communication skills which enhanced cooperation, and team spirit at the organizational level.⁷⁹ It also showed however, that the successful female managers tended to imitate male managerial behavior. An overall assessment indicates that women are equally effective at providing purpose and direction to an organization and possibly more better at developing an effective organization climate.

However, the 1979 study of the impact of male and female leaders on the group performance, morale, and perceptions of West Point cadets, conducted by ARIBSS, indicated that women leaders had an adverse effect on the performance and morale within small groups. This is clearly stated in the final report:

... the general pattern in this data is clear - - groups with male leaders generally performed better than did groups with female leaders. To the best of our knowledge, this is the first study

to demonstrate that sex of a leader can have an impact on the task performance of a small group.⁸⁰

These results were based on the analysis of the performance of 72 groups consisting of a leader and three followers. Half the leaders had followers that with negative attitudes towards women and half had followers with positive attitudes towards women. The leaders were also evenly distributed based on their leadership style, half were primarily task oriented and half were relationship oriented.⁸¹ Each group performed both a structured and an unstructured task. This provided a broad base situational and subsequent data for analysis which improves the credibility of the study. Although the high level of resentment against women within the USMA Corps of Cadets during this period makes the direct application of the data suspect, the situational similarities of assimilating women into all male direct combat units increases the applicability of these findings. Consequently, the relative effectiveness of female leadership within squads, crews and teams should at least be an area of concern.

The Rites of Passage was written in 1908 by an anthropologist named Van Gennep. It was a study of primary group and organizational bonding of men in aboriginal and African tribes. In each of the tribes, the primary means of creating these psychological and social bonds between the men was through a series of initiation rites. Van Gennep described this process as the rites of passage and subdivided the rites of passage into three phases. The first phase, the "Rite of Separation," broke the initiate's bonds with his past

life. The second phase, the "Rite of Transition," was generally a grueling experience designed to develop interdependence and establish a commonality of experience (elements of bonding in the primary group). The final phase, the "Rite of Incorporation," was the assimilation of the initiates into the tribe as a man and warrior. It focused on the recognition and acceptance of shared values.⁸² The rites of passage accomplished three things: it forever separated the initiates from their past life; it instilled the value and importance of the transformation; and it established their sense of self within their primary group (family) and tribe (organization). Generally the more severe the initiation process, the more complete the assimilation of group standards (norms) and values.

Gillman and Marshak used this model to examine the conduct of basic cadet training for the Class of 1980 at the United States Air Force Academy. The Class of 1980 was the first class with women cadets. Gillman and Marshak determined that in order to ensure low attrition rates for female cadets the Academy diluted the rites of passage for the Class of 80. The results were that the Air Force Academy was the only service academy to have a higher percentage of male attrition than female.

The study stated sequestering the female cadets on their own floor of the barracks (on which no males, including upperclassmen were allowed) and also allowing the women to disregard certain elements of the rites of separation (the appearance of the women to remain relatively unchanged

while males received the obligatory head shaving) weakened the effects of the rites of separation for the Class of 80.⁸³ The introduction of a dual physical standard for men and women, and the abatement in the intensity of the physical training thinned the rites of transition. Gillman and Marshak concluded:

The male initiates, . . . felt the physical and mental challenges of BCT were easier or no different from what they had expected. The worth of the cadet status for the males had not been increased by the discomforts of BCT as much as the females. The males' perception that BCT was easier led to a less established sense of identity and less pride in being a cadet.⁸⁴

This reduced interdependence, commonality of experience and esprit. Because the male cadets perceived a double standard between men and women and the administrations' failure or unwillingness to recognize the double standard, the male cadets never assimilated the values of the Academy. Therefore, the male cadets never completed the rites of incorporation. The results of the watered down rite of passage was a "troubled " class which became a negative example at the Air Force Academy.

85

To summarize these psychological studies, indications are that women are as effective or more effective as leaders at the organizational or unit level. Thus, there would be little or no psychological effects on organizational bonding. But there is evidence that women may be less effective leaders of small groups (or at least small groups of men). More importantly, however, the inability of women to attain the same level of physical strength and

endurance as men will reduce the effectiveness of initiation training programs such as BCT and AIT for direct combat units. This will dilute the development of interdependency, commonality of experience, and esprit and thereby weaken primary group and system bonding. In summary, the psychological effects of assigning women to direct combat units will also decrease cohesion. As shown by the model, any decrease in cohesion will cause almost a directly proportional decrease in combat effectiveness. This is because the lower the level of cohesion the more susceptible a unit is to destruction.

Within the armies of the North Atlantic Treaty Organization (NATO), Belgium, Denmark, the Netherlands, and Norway employ women in direct combat roles. Most recently, Canada started to integrate women into direct combat units. This initiative began in 1987 when the Canadian Forces (CF) recommended the elimination of all restrictions regarding the assignment of women in the air force.³⁶ Simultaneously, the Canadian Minister of National Defense directed the CF to also begin a five year study on the Combat Related Employment of Women (CREW). The focus of the CREW study was to investigate the use of women in combat arms and combat support arms assignments in both the army and the navy. The study was also to develop options to determine what units could be fully integrated with women without reducing combat effectiveness.³⁷ The CREW investigations were to include all direct ground and maritime combat units.

The study was never completed because in 1987 the Canadian Human Rights Tribunal removed all restrictions on the assignment of women within the military (except assignments aboard submarines).⁸⁸ The tribunal also ruled that there would be no restrictions on the number of women permitted to serve in any military organization or unit. As a result, the CREW study went from experimentation to execution and the major goal became to minimize the problems during the transition.⁸⁹ The intent was to reduce the problems for the women and units that were integrating.

Present plans require a phased initiation women of women into direct combat units. The phased integration has two major benefits. First, it will preclude assigning only one or two women to large all-male units. Second, it will allow better and more accurate feedback permitting incremental changes during the process.⁹⁰ The ultimate goal for the Canadian military is to make all assignments without any regard to gender.

But the CF are still facing some major hurdles. One of the biggest is in integrating women into direct combat units. The CF are experiencing significant problems in recruiting, training and retaining women in these units. During the first year of gender integration only 64 women enlisted in the infantry and only 34 actually went to training. The rate of attrition was due to a host of reasons to include medical, but apparently the majority simply lost interest in undergoing infantry training. Overall, almost 50 percent of the women recruited for infantry training were released or

reassigned before their training even began. As of 1990, no women had successfully completed infantry training - - a failure rate of 100 percent.⁹¹ Since 1989, three enlisted women completed basic armor training and served in the Royal Canadian Armored Corps. Today, only one remains on active duty and she is requesting to rebranch because of the lack of female companionship.⁹²

The CF attributes these failures to both poor recruiting and screening procedures, and the lack of sufficient physical stamina among female trainees.⁴⁷ The CF also partially blames the application of separate physical fitness standards for women while in basic training. Consequently, women are not physically prepared for the rigorous direct combat arms training programs. Because of the relative similarities in Canadian and U.S. societies, the U.S. Army could expect to face the same problems in recruiting, training, and retaining for women in direct combat units. The Canadian's experience also validates the previous assessments regarding the capability of women to sustain the required physical strength and endurance levels. The female tank gunner's desire to branch transfer also illustrates the adverse effects on primary group and system bonding. Naturally, she feels the need for moral support from other women which is something her all male unit can't provide. This type of imbalance will weaken primary group and system bonds and hence the cohesion of her unit.

Many of the advocates for the assignment of women to direct combat

use examples of women successfully fighting in guerrilla wars or unconventional wars (to include terrorism). But, the nature of these conflicts is fundamentally different than conventional combat because guerrilla actions are generally of short duration and characterized by hit-and-run tactics. This is not the same type of sustained and intense combat described in AR 600-13. Guerrilla units are not subjected to the level of destruction of conventional direct combat units. Also the cohesion in guerrilla units depends more on nearly fanatical adherence to shared ideological values, which elevates the major element of cohesion to organizational bonding. These units are held together by perceived depravations and the shared vision of a better future for their country. This shared vision produces strong organizational bonds but not necessarily strong primary group or system bonds. But this bonding is sufficient to withstand the lower intensity of combat experienced by guerrilla units. The Combat Cohesion Model supports this analysis. The hit-and-run tactics reduce the rates of destruction applied to the guerrilla unit, therefore the guerrilla units require less cohesion.

This is also true regarding women performing as police or firemen. Again, police and fire departments don't experience sustained combat. As a result, they do not experience the levels of destruction of a direct combat unit. This is evidenced by the fact that nearly three times as many soldiers were killed in Desert Storm than there were policemen killed in all of 1989. Therefore, the Combat Cohesion Model indicates that the relative

requirements for cohesion are greater for military direct combat units than for civilian police forces. Thus making these examples less germane in assessing the effects of women in direct combat on cohesion.

Conclusions

The purpose of this monograph was to determine whether allowing women in direct combat assignments in the U.S. Army will adversely affect unit cohesion and as a result, degrade combat effectiveness. To answer this question the monograph: 1) conducted a theoretical analysis of the nature of war to establish the relationship between the unit, combat, cohesion, and the process of destruction, 2) developed a Combat Cohesion Model to assist in the evaluation of the historical investigation and assessment of current issues; 3) proceeded with an analysis of the historical precedents of women serving in direct combat, and finally 4) reviewed current issues. The analysis of historical precedents and current issues indicates that assigning women to direct combat units will adversely effect cohesion and subsequently, degrade combat effectiveness.

Both historical evidence and current empirical evidence indicates both physiological and psychological effects of assigning women to direct combat units will weaken primary group, system, and organizational bonding and therefore adversely effect unit cohesion. Lower levels of cohesion make the unit more susceptible to the forces of destruction. Greater susceptibility results in a higher rate of destruction which increases the likelihood the unit

will become disorganized and hence less combat effective.

Substantially lower physical strength and endurance is the major reason assigning women to direct combat units degrades cohesion. This physiological difference produces both adverse physical and psychological effects. The combined effects weaken primary group, system, and organization bonds. An assessment of the relative effects on each component of cohesion follows:

Primary Group Bonding. Women will have the most adverse impact on this component of cohesion in direct combat units. The lower physical strength and endurance of women will degrade the intensity of initiation training. This will in turn reduce the psychological aspects of interdependency and commonality of experience, and lower morale. More importantly however, the actual biophysical implications will result in uneven distribution of heavy labor which will foster resentment and also erode interdependency. The erosion of interdependency will undermine confidence and reduce performance. This is supported by the historical examples of the Soviet women discarding equipment or having the other men carry the additional weight. It is also supported by the higher attrition rates sustained by mixed Israeli assault units.

System Bonding. Lower relative physical strength and endurance will prevent crews, squads, and teams from effectively bonding with associated weapon systems. Women have demonstrated the inability to perform very

heavy work. The type of effort remains essential to effectively operate and maintain present weapon systems. The inability of a crew to optimally employ their equipment will again erode confidence and hence morale.

Organizational Bonding. The historical analysis presented no evidence of adverse effects on organizational bonding for the armies that integrated women into direct combat units. This is also supported by the psychological study which indicated that generally women may improve cooperation and climate at the organizational level by applying better communication skills.

Current Issues. The other issues often presented in support of women in direct combat (women as guerrillas, police and firemen, as well as the armies of other nations) when closely reviewed actually support the continued exclusion from these assignments. Guerrillas, police, and firemen participate in stressful high-risk activities but they don't directly compare to the sustained conventional combat experienced by infantrymen or armor and artillery crewmen. Therefore, neither the guerrilla band, police squad, nor fire station requires the level of cohesion of a direct combat unit. Du Picq arrived at the same conclusion when he stated: " combat requires . . . a moral cohesion a unity more binding than at any other time." ⁹⁴ Likewise, Canada, a nation very similar to the U.S. in social character, is having severe difficulties integrating women into combat units. As a result, these examples actually support the continued exclusion of women from direct combat assignments because they highlight the unique nature and physical demands of combat.

Recommendations

The vast majority of evidence validates the Army's exclusion policy. Although discriminatory, the policy is just. With the possible exception of Army Aviation, the assignment of women to direct combat units will degrade overall combat readiness and therefore place the security of the United States at risk. Alexander Hamilton once said if the United States is to remain free, all Americans must be willing to give up some of their individual rights to ensure the greater security of our nation.⁹⁵ The needs of the many outweigh the needs of the few. Today the needs of the Army and the nation outweigh the needs of the relatively few women seeking the challenges of direct combat units.

ENDNOTES

1. Headquarters Department of the Army Message, Subject: Public Affairs Guidance - Women in the Military, (DTG: 202000Z August 1990), p. 3.
2. Lesley Hazelton, Israeli Women: The Reality Behind the Myths, (New York, 1977), p. 138.
3. U.S. Army, Army Regulation 600-13, (Update), (Washington DC, April 92), p. 4.
4. Ibid., p. 8.
5. " Military Women Recommended for Sea, not Land or Air Combat," The Kansas City Star, (4 November 1992), p. A2.
6. Eric Schmitt, " Military Has a Lot to Learn About Women," New York Times, (2 August 1992), p. A24.
7. " Military Women Recommended," p. A3.
8. T.E. Lawrence, Seven Pillars of Wisdom, (New York, 1986), p. 197.
9. James J. Schneider, " Theoretical Paper No. 3," (Research paper, U.S. Army School of Advanced Military Studies, March 1988), pp. 6-7.
10. Ibid., pp. 6-7.
11. Ibid., p. 6.
12. Ardant du Picq, Battle Studies: Ancient and Modern Battle, (Harrisburg, Pennsylvania, 1987), p. 150.
13. Carl Von Clausewitz, On War, (Princeton, 1976), p. 184.
14. Ibid., p. 185.
15. Ibid., p. 227.

16. Du Picq, Battle Studies, pp. 149-150.
17. Ibid., pp 149-150.
18. Schneider, " Paper No. 3," Figure 2.
19. Stephen D. Westbrook, " The Potential for Military Disintegration," in Combat Effectiveness: Cohesion, Stress, and the Volunteer Military, Sam C. Sarkesian, ed., (Beverly Hills, 1980), p. 251.
20. Ibid., p. 253.
21. S.L.A. Marshall, Men Against Fire: The Problem of Battle Command in Future War, (Gloucester, Mass., 1978), p. 128.
22. Westbrook, " Disintegration," p. 268.
23. Sun Tzu, The Art of War, Samuel Griffith, trans., (New York, 1981-82), p. 92.
24. Charles W. Sydnor, Soldiers of Destruction: The SS Death's Head Division, 1933-1945, (Princeton, 1977), pp. 183-197.
25. Charles Whiting, Death of a Division, (London, 1980), p. 30.
26. Ibid., p. 30.
27. Ibid., p. 12.
28. Ibid., p. 12
29. Ibid., pp. 12-13.
30. Louis Williams, The Israel Defense Forces a Peoples Army, (Tel Aviv, 1990), p. 321.
31. Shelly Saywell, Women in War, (New York, 1985), p. 131.
32. Clausewitz, On War, p. 579.
33. Ibid., pp. 89,579.
34. Saywell, Women in War, pp. 131-158.

35. Ibid., p. 131.
36. Gwen Gibson, "The Utilization of Women in the Soviet Union." (Student Paper, U.S. Army Command and General Staff College, March 1973), p. 14.
37. J. David Truby, Women at War: A Deadly Species, (Boulder, 1977), p. 35.
38. Gibson, " Women in the Soviet Union," p. 16.
39. Christopher Donnelly, Red Banner, (Alexandria, Va., 1988), p. 189.
40. Gibson, " Women in the Soviet Union," p. 16.
41. Saywell, Women in War, pp. 136, 146.
42. Ibid., p. 132.
43. Ibid., p. 168.
44. Edward N. Luttwak and Daniel Horowitz, The Israeli Army, 1948-1973, (Lanham, Md., 1983), pp. 1-37.
44. Ibid., pp. 1-37.
46. Saywell, Women in War, p. 185.
47. Luttwak, Israeli Army, pp. 27-28.
48. Saywell, Women in War, p. 185.
49. Williams, IDE, p. 321.
50. Hazelton, Israeli Women, pp. 138-140.
51. Saywell, Women in War, p. 184.
52. Ibid., p. 185.
53. Ibid., p. 185.
54. John G. Roos, " An Exclusive AFJI Interview with: Michael P.W.

Stone, Secretary of the Army," Armed Forces Journal International.
(October, 1992), p. 59.

55. J. Peterson, J. Vogal, D. Kloval, and L. Tomnal. Project 60: A Comparison of Two Types of Physical Training Programs on the Performance of 16-18 Year-Old Women, Summary Report, (United States Military Academy, 3 May 1976), p. 4.

56. Peterson, Project 60, (Appendix A: Physiological Differences Between Men and Women), pp. 117-122.

57. Peterson, Project 60, pp. 6-10 and Robert Stauffer, Comparison Of United States Military Academy Men and Women on Selected Physical Performance Measures: Project Summertime, (Summary report, October 1975) pp. 3-10. Both are discussions of experimental design.

58. Peterson, Project 60, pp. 8-9.

59. Ibid., pp. 18-19.

60. Ibid., pp. 56-60.

61. Ibid., p. 88.

62. Ibid., p. 87.

63. Stauffer, Summertime, pp. 21-22.

64. Ibid., pp. 26-31.

65. Ibid., pp. 34-36.

66. Ibid., p. 37.

67. U.S. Army, Women in Combat. Final Report for Training and Doctrine Command, (Fort Monroe, Va., 1986), pp. v-vii.

68. Ibid., pp. III-8 thru III-10.

69. Ibid., p. III-10 (Figure 3-1).

70. Ibid., pp. III- 10 thru III-15 (Figure 3-4).

72. William J. Gregor, " Statement to the Presidential Commission on the

Assignment of Women in the Armed Forces," (12 September 1992), p. 3.

73. Ibid., p. 3.

74. Ibid., p. 3-4. Dr. Gregor discusses the male standard as the objective standard and the relates effects of applying it to women: overall performance failures, lower PT scores and evaluations. He also describes that those women that are able to compete with the lower half of the men are already fulfilling their maximum physical potential whereas the men are " dogging it, " and have potential to improve. Therefore evaluating women on the same standard as men will only discourage the women (who are incapable of further development).

75. Ibid., p. 4.

76. Ibid., p. 4.

77. David Gillman and William Marshak, " The Integration of Women into a Male Initiation Rite: A Case Study of the USAF Academy, " as presented by Brian Mitchel in Weak Link: The Feminization of the American Military. (Washington, DC, 1989), pp. 51-64.

78. Dimitris Bourantas and Nancy Papalexandris, " Sex Differences in Leadership Styles and Subordinate Satisfaction," Journal of Managerial Psychology. (UK, 1990), pp 7-10.

79. Ibid., pp 8-9.

80. R. Rice, L. Richer, and A. Vitters, The Impact of Male and Female Leaders on the Group Performance, Morale, and Perceptions of West Point Cadets, Army Research Institute for the Behavioral and Social Science, (Alexandria, Va., September 1979), p. 54.

81. Ibid., p. vii.

82. Gillman, " Rites of Passage, " pp. 51-53. Compares Van Gennep's rites to USAF BCT.

83. Ibid., p. 52.

84. Ibid., p. 55.

85. Ibid., pp. 55-64. Describes the problems experienced by the

Class of 80 in terms of the failure of their initial training to bond them with the Academy and with each other.

86. Mary Sue Hay and Charles Middlestead. Women in Combat: An Overview of the Implications for Recruiting, Research Report, U.S. Army Research Institute for Behavioral and Social Sciences, (Alexandria, Va., July 1990), p. 18.

87. Ibid., p. 18.

88. Ibid., p. 18.

89. Ibid., p. 18.

90. Ibid., p. 18.

91. Ibid., p. 19.

92. Thomas W. Suitt, " Memorandum for Record, Subject: Assignment of Women in the Royal Canadian Armor Corps," Combined Arms Division, United States Army Command General and Staff College, (Fort Leavenworth, Ks., 4 August 1992). Memorandum outlines a discussion with Major J.H.J. Russel, LNO for the Royal Canadian Army.

93. USARIBSS, " Implications for Recruiting," p. 19.

94. Alexander Hamilton, " Federalist Paper No. 1: Hamilton." Federalist Papers, (New York, 1982), pp. 2-5.

BIBLIOGRAPHY

BOOKS

- Binkin, Martin and Shirley Bach. Women and the Military. Washington, DC: The Brookings Institution, 1977.
- Clausewitz, Carl von. On War. Michael Howard and Peter Paret (ed. and trans.) Princeton, New Jersey: Princeton University Press, 1976.
- Donnelly, Christopher. Red Banner. Alexandria, Va.: Janes Information Group, LTD, 1988.
- Du Picq, Ardant. Battle Studies: Ancient and Modern Battle. Colonel John N. Greely and Major Robert C. Coton (trans) Harrisburg, Pennsylvania: Stackpole Books, 1987.
- Dupuy, Trevor N. Attrition: Forecasting Battle Casualties and Equipment Losses in Modern War. Fairfax, Virginia: Hero Books, 1990.
- Dupuy, Trevor N. The Evolution of Weapons and Warfare. New York: Da Capo Press, Inc., 1984.
- Hamilton, Alexander, John Jay and James Madison. The Federalist Papers. New York: Bantam Books, 1988.
- Holm, Jeanne, Maj Gen, USAF (Ret). Women in the Military: An Unfinished Revolution. Novato, California: Presidio Press, 1982.
- Kellett, Anthony. Combat Motivation: The Behavior of Soldiers in Battle. Boston, Massachusetts: Kluwer Nijhoff Publishing, 1982.
- Lawrence, T.E.. Seven Pillars of Wisdom. New York: Viking Penguin, Inc., 1986.
- Luttwak Edward N. and Daniel Horowitz. The Israeli Army, 1948-1973. Lanham, Md.: University Press of America, 1983.

Marshall, S. L. A. Men Against Fire. Gloucester, Massachusetts:
Peter Smith (pub), 1947.

Mitchel, Brian. Weak Link: Feminization of the American Military.
Washington, DC: Regnery Gateway, 1989.

Robbins, Stephen P. Essentials of Organizational Behavior. Englewood
Cliffs, N.J.: Prentiss Hall, 1992.

Rogan, Helen. Mixed Company: Women in the Modern Army. New York:
G.P. Putnam's Sons, 1981.

Sarkesian, Sam C. (ed.). Combat Effectiveness: Cohesion,
Stress, and the Volunteer Military. Beverly Hills: Sage
Publications, 1980.

Sydnor, Charles W. Soldiers of Destruction: The SS Deaths Head
Division, 1933-1945. Princeton: Princeton University Press, 1977.

Truby, David J. Women at War: A Deadly Species. Boulder:
Paladin Press, 1977.

Webster, Merriam, Inc. Webster's Ninth New Collegiate
Dictionary. Springfield, Massachusetts: Merriam-
Webster Inc., 1984.

Whiting, Charles. Death of a Division. London: Frederick Warne,
Ltd, 1980.

Williams, Louis. The Israel Defense Forces a Peoples Army. Tel Aviv:
Ministry of Defense, 1990.

GOVERNMENT PUBLICATIONS

Gregor, William J. "Statement to the Presidential Commission
on the Assignment of Women in the Armed Forces."
Washington, D.C.: 12 September 1992.

US Army. Women in Combat. Final Report. Ft. Monroe,
Virginia: Training and Doctrine Command, 1986.

- U.S. Army. Project 60: A Comparison of Two Types of Physical Training Programs on the Performance of 16-18 Year-Old Women. Summary Report. J. Peterson, J. Vogel, D. Kloval, and L. Tomnal. West Point, NY: United States Military Academy (USMA), 3 May 1976.
- U.S. Army. Comparison of United States Military Academy Men and Women on Selected Physical Performance Measures: Project Summertime. Robert Stauffer West Point NY: USMA, October 1976.
- U.S. Army Research Institute for the Behavioral and Social Science. The Impact of Male and Female Leaders on the Group Performance, Morale and Perceptions of West Point Cadets. R. Rice, L. Richer and A. Vitters. Alexandria, Va.: Advanced Research Resources Organization, September 1979.
- U.S. Army Research Institute for Behavioral and Social Sciences. Women in Combat: An Overview of the Implications for Recruiting. Mary Sue Hay and Charles Middlestead. Alexandria, Va: Advanced Research Resources Organization, July 90.
- U.S. Army. HQDA Message, Subject: Public Affairs Guidance - Women in the Military. Washington, DC: Department of the Army, 202000Z August 1990.
- U.S. Army. Army Regulation 600-13: Army Policy for the Assignment of Female Soldiers. Washington, DC. Department of the Army, 27 April 1992.

UNPUBLISHED DISSERTATION, THESES, AND PAPERS

- Gibson, Gwen, "The Utilization of Women in the Soviet Union." Student Paper, U.S. Army Command and General Staff College, March 1973.
- Schneider, James J. "Theoretical Paper No. 3." Research Paper, U.S. Army School of Advanced Military Studies, March 1988.

Suitt, Thomas. "Memorandum for Record, Subject: Assignment of Women in the Royal Canadian Armor Corps." Fort, Leavenworth, Ks.: Combined Arms Division, CGSC (4 August 1992).

ARTICLES

Bourantas, Dimitris and Nancy Papalexandris. "Sex Differences in Leadership Styles and Subordinate Satisfaction." Journal of Managerial Management(1990):3.

Roos, John G. "An Exclusive Interview with: Michael P.W. Stone, Secretary of the Army." Armed Forces Journal International (October, 1992):4.

Schmitt, Eric. "Military Has a lot to Learn About Women." New York Times (2 August 1992):1.

"Military Women Recommended for Sea, not Land or Air Combat." The Kansas City Star (4 November 1992):1.